

41. The method of claim 36, wherein the composition comprising a jatrophane ring conformation comprises a benzoate moiety.

43. The method of claim 33, wherein the jatrophone derivative comprises an ester derivative.

44. The method of claim 33, wherein the jatropane derivative comprises an acetylated derivative.

45. The method of claim 36, wherein the jatrophone derivative comprises a substitution in the jatrophone ring carbon 1 position of a moiety selected from the group consisting of a -H and a -OAc.

46. The method of claim 36, wherein the jatrophone derivative comprises a substitution in the jatrophone ring carbon 2 position of a moiety selected from the group consisting of a -H, a -OAc and a CH<sub>3</sub>.

47. The method of claim 36, wherein the jatrophone derivative comprises a substitution in the jatrophone ring carbon 3 position of a moiety selected from the group consisting of a -OH, a -OAc, a -OiBu ( $\text{O}(\text{CH}_3)_2\text{CHCO}$ ), a -OCinn, a -OBz, a -OBzOCH<sub>2</sub>CO, and a -PhCH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>.

48. The method of claim 36, wherein the jatrophane derivative comprises a substitution in the jatrophane ring carbon 4 position of an -H.

49. The method of claim 36, wherein the jatrophone derivative comprises a substitution in the jatrophone ring carbon 5 position of a moiety selected from the group consisting of a -OAc, a -OiBu ( $\text{O}(\text{CH}_3)_2\text{CHCO}$ ), -OMeBu ( $\text{OCH}_3\text{CH}_2\text{CH}(\text{CH}_3)\text{CO}$ ) and a -OAcAc.

50. The method of claim 36, wherein the jatrophane derivative comprises a substitution in the jatrophane ring carbon 6 position of a moiety comprising an exocyclic double bond.

51. The method of claim 36, wherein the jatrophane derivative comprises a substitution in the jatrophane ring carbon 7 position of an  $-H_2$ , a  $-OAc$ , a  $-OiBu$  ( $O(CH_3)_2CHCO$ ), a  $-OmeBu$  ( $OCH_3CH_2CH(CH_3)CO$ ), a  $-OPr$ , a  $-OCOiPr$  and a  $-OCOEt$ .

52. The method of claim 36, wherein the jatrophane derivative comprises a substitution in the jatrophane ring carbon 8 position of an  $-H_2$ , a  $-OH$ , a  $-OAc$ , a  $-OiBu$  ( $O(CH_3)_2CHCO$ ), a  $-OmeBu$  ( $OCH_3CH_2CH(CH_3)CO$ ), a  $-OBz$  and a  $-OAng$ .

53. The method of claim 36, wherein the jatrophane derivative comprises a substitution in the jatrophane ring carbon 9 position of an  $-OH$ , a  $-OAc$  ( $-OCH_3CO$ ), a  $-OCinn$  ( $OPhCHCHCO$ ), a  $-ONic$  ( $C_5H_4NCO_2$ ) and an  $=O$ .

54. The method of claim 36, wherein the jatrophane derivative comprises a substitution in the jatrophane ring carbon 10 position of a  $-(CH_3)_2$ .

55. The method of claim 36, wherein the jatrophane derivative comprises a substitution in the jatrophane ring carbon 11 and carbon 12 positions comprising a double bond between carbon 10 and carbon 11.

56. The method of claim 36, wherein the jatrophane derivative comprises a substitution in the jatrophane ring carbon 13 position of a  $-(CH_3)$ .

57. The method of claim 36, wherein the jatrophane derivative comprises a substitution in the jatrophane ring carbon 14 position of an  $-H$ , an  $-OH$ , a  $-OAc$  ( $OCH_3CO$ ) and an  $=O$ .

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58. The method of claim 36, wherein the jatrophane derivative comprises a substitution in the jatrophane ring carbon 15 position of an -OH and a -OAc (OCH<sub>3</sub>CO).

59. The method of claim 35, wherein the composition comprises a 2,3,5,7,15-pentaacetoxy-9-nicotinoyloxy-14-oxojatropha-6(17),11E-diene (jatrophane 1) or a pharmaceutically acceptable salt.

60. The method of claim 35, wherein the composition comprises a 2,5,7,8,9,14-hexaacetoxy-3-benzoyloxy-15-hydroxy-jatropha-6(17),11E-diene (jatrophane 2) or a pharmaceutically acceptable salt.

61. The method of claim 35, wherein the compound comprises a 2,5,14-triacetoxy-3-benzoyloxy-8,15-dihydroxy-7-isobutyroyloxy-9-nicotinoyloxyjatropha-6(17), 11E-diene (jatrophane 3) or a pharmaceutically acceptable salt of these.

62. The method of claim 35, wherein the compound comprises a 2,5,9,14-tetraacetoxy-3-benzoyloxy-8,15-dihydroxy-7-isobutyroyloxyjatropha-6(17),11E-diene (jatrophane 4) or a pharmaceutically acceptable salt of these.

63. The method of claim 35, wherein the compound comprises a 2,5,7,14-tetraacetoxy-3-benzoyloxy-8,15-dihydroxy-9-nicotinoyloxyjatropha-6(17),11E-diene (jatrophane 5) or a pharmaceutically acceptable salt of these.

64. The method of claim 35, wherein the compound comprises a 2,5,7,9,14-pentaacetoxy-3-benzoyloxy-8,15-dihydroxyjatropha-6(17),11E-diene (jatrophane 6) or a pharmaceutically acceptable salt of these.

65. The method of claim 33, wherein the compound (<sup>15</sup>comprises a composition) selected from the group consisting of a pepluane, a pepluane derivative and a pharmaceutically acceptable salt of a pepluane or a pepluane derivative.

66. The method of claim 65, wherein the pepluane derivative comprises an ester derivative.

67. The method of claim 65, wherein the pepluane derivative comprises an acetylated derivative.

68. The method of claim 65, wherein the pepluane derivative comprises a substitution in a position in a pepluane skeleton selected from the group consisting of

- an -H<sub>2</sub> or an -OAc (-OCH<sub>3</sub>CO) at a carbon 1 position;
- a -CH<sub>3</sub> and an -H at a carbon 2 position;
- an -OBz at a carbon 3 position;
- an -H at a carbon 4 position;
- an -OAc (-OCH<sub>3</sub>CO) at a carbon 5 position;
- a -CH<sub>3</sub> or an -CH<sub>2</sub>OAc at a carbon 6 position;
- an -H<sub>2</sub> at a carbon 7 position;
- an -OAc (-OCH<sub>3</sub>CO) or a double bond to C12 at a carbon 8 position;
- an -OAc (-OCH<sub>3</sub>CO) or a double bond to C18 at a carbon 9 position;
- a -CH<sub>3</sub> and an -OAc (-OCH<sub>3</sub>CO), a -CH<sub>3</sub>, or a double bond to C11 at a carbon 10 position;
- an -H<sub>2</sub> or a double bond to C10 at a carbon 11 position;
- an -H or a double bond to C8 at a carbon 12 position;
- a -CH<sub>3</sub> at a carbon 13 position;
- an -OAc (-OCH<sub>3</sub>CO) at a carbon 14 position;
- an -OH at a carbon 15 position; and,
- an -H or an -H<sub>2</sub> at a carbon 18 position.

69. The method of claim 65, wherein the pepluane comprises a composition selected from the group consisting of a 5,8,9,10,14-pentaacetoxy-3-benzoyloxy-15-hydroxypepluane, a derivative of a 5,8,9,10,14-pentaacetoxy-3-benzoyloxy-15-hydroxypepluane

44  
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and a pharmaceutically acceptable salt of a 5,8,9,10,14-pentaacetoxy-3-benzoyloxy-15-hydroxyheptane.

70. The method of claim 33, wherein the compound <sup>is</sup> ~~comprises a composition~~ selected from the group consisting of a paraliene, a paraliene derivative and a pharmaceutically acceptable salt of a paraliene or a paraliene derivative.

71. The method of claim 70, wherein the paraliene derivative comprises an ester derivative.

72. The method of claim 70, wherein the paraliene derivative comprises an acetylated derivative.

73. The method of claim 70, wherein the paraliene derivative comprises a substitution in a position in a paraliene skeleton selected from the group consisting of

- an -H, an -H<sub>2</sub> or an -OAc (-OCH<sub>3</sub>CO) at a carbon 1 position;
- a -CH<sub>3</sub> and an -H or a -CH<sub>3</sub> and an -OAc (-OCH<sub>3</sub>CO) at a carbon 2 position;
- an -OBz at a carbon 3 position;
- an -H at a carbon 4 position;
- an -OAc (-OCH<sub>3</sub>CO) at a carbon 5 position;
- a -CH<sub>3</sub> or a -CH<sub>2</sub>OAc at a carbon 6 position;
- an -H<sub>2</sub> at a carbon 7 position;
- an -H or an -OAc (-OCH<sub>3</sub>CO) at a carbon 8 position;
- an = O at a carbon 9 position;
- a -(CH<sub>3</sub>)<sub>2</sub> at a carbon 10 position;
- an -H<sub>2</sub> at a carbon 11 position;
- an -H at a carbon 12 position;
- a -CH<sub>3</sub> at a carbon 13 position;
- an -OAc (-OCH<sub>3</sub>CO) at a carbon 14 position; and,
- an -OH at a carbon 15 position.

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79. The method of claim 78, wherein the compounds are selected from the group consisting of a jatrophone, a jatrophone derivative, a pharmaceutically acceptable salt of a

jatrophane, a pepluane, a pepluane derivative, a pharmaceutically acceptable salt of a pepluane, a paraliane, a paraliane derivative, a pharmaceutically acceptable salt of a paraliane, an angeloyl-substituted ingenane, an angeloyl-substituted ingenane derivative and a pharmaceutically acceptable salt of an angeloyl-substituted ingenane.

80. The method of claim 78, wherein the compounds are selected from the group consisting of a 5,8,9,10,14-pentaacetoxy-3-benzoyloxy-15-hydroxy-pepluane (pepluane), a derivative of a 5,8,9,10,14-pentaacetoxy-3-benzoyloxy-15-hydroxy-pepluane, a 2,3,5,7,15-pentaacetoxy-9-nicotinoyloxy-14-oxojatropha-6(17),11E-diene (jatrophane 1), a derivative of a 2,3,5,7,15-pentaacetoxy-9-nicotinoyloxy-14-oxojatropha-6(17),11E-diene, a 2,5,7,8,9,14-hexaacetoxy-3-benzoyloxy-15-hydroxy-jatropha-6(17),11E-diene (jatrophane 2), a derivative of a 2,5,7,8,9,14-hexaacetoxy-3-benzoyloxy-15-hydroxy-jatropha-6(17),11E-diene, a 2,5,14-triacetoxy-3-benzoyloxy-8,15-dihydroxy-7-isobutyroyloxy-9-nicotinoyloxy-jatropha-6(17),11E-diene (jatrophane 3), a derivative of a 2,5,14-triacetoxy-3-benzoyloxy-8,15-dihydroxy-7-isobutyroyloxy-9-nicotinoyloxy-jatropha-6(17),11E-diene, a 2,5,9,14-tetraacetoxy-3-benzoyloxy-8,15-dihydroxy-7-isobutyroyloxy-jatropha-6(17),11E-diene (jatrophane 4), a derivative of a 2,5,9,14-tetraacetoxy-3-benzoyloxy-8,15-dihydroxy-7-isobutyroyloxy-jatropha-6(17),11E-diene, a 2,5,7,14-tetraacetoxy-3-benzoyloxy-8,15-dihydroxy-9-nicotinoyloxy-jatropha-6(17),11E-diene (jatrophane 5), a derivative of a 2,5,7,14-tetraacetoxy-3-benzoyloxy-8,15-dihydroxy-9-nicotinoyloxy-jatropha-6(17),11E-diene, a 2,5,7,9,14-pentaacetoxy-3-benzoyloxy-8,15-dihydroxy-jatropha-6(17),11E-diene (jatrophane 6), a derivative of a 2,5,7,9,14-pentaacetoxy-3-benzoyloxy-8,15-dihydroxy-jatropha-6(17),11E-diene, a 20-O-acetyl-ingenol-3-angelate, a derivative of a 20-O-acetyl-ingenol-3-angelate and pharmaceutically acceptable salt of one or any combination of these compounds.

81. The method of claim 78, wherein the compounds are provided in the form of a chemical fraction obtained from the sap of a species of *Euphorbia*.

82. The method of claim 33, wherein the compound further comprises a beta-alanine betaine or a hydroxy-dimethyl proline.



83. The method of claim 33, wherein the compound is capable of inhibiting or retarding the growth of MM96L cells.

84. The method of claim 33, wherein the compound is capable of inducing differentiation of MM96L cells.

85. The method of claim 33, wherein the compound is capable of inducing normal melanocytes to proliferate.

86. The method of claim 33, wherein the compound is capable of inducing T cells to proliferate.

87. The method of claim 33, wherein the compound is capable of inducing the expression of G-CSF.

88. The method of claim 33, wherein the compound is capable of inducing the expression of major histocompatibility complex (MHC) molecules.

89. The method of claim 33, wherein the compound is capable of recruiting a natural killer cell to a region of application of the compound.

90. The method of claim 33, wherein the compound is capable of a T cell to a region of application of the compound.

91. The method of claim 33, wherein the compound is provided in the form of a composition comprising a pharmaceutically- or cosmetically-acceptable carrier.

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92. The method of claim 91, wherein the pharmaceutically- or cosmetically-acceptable carrier is selected from a  $\beta$ -alanine betaine hydrochloride and a t-4-hydroxy-N,N-dimethylproline.

93. A method of recruiting an immune cell to a region of application of a compound, the method comprising administering an effective amount of the compound to the region,

wherein the compound is derived from an extract from the sap of a species of *Euphorbia*, wherein the compound

(a) is extractable from the *Euphorbia* sap in the presence of about 95% v/w ethanol,

(b) has cell inhibiting or retarding activity which is neither destroyed by acetone nor by heating at about 95°C for about 15 minutes, and

(c) is capable of inhibiting the growth of at least one cell line selected from the group consisting of MM96L, MM229, MM220, MM537, MM2058, HeLa, B16, LIM1215, A549, MCF7, MCC16 and Colo16.

94. The method of claim 93, wherein a natural killer cell is recruited to the region of application of the compound.

95. The method of claim 93, wherein a T cell is recruited to the region of application of the compound.--